REMARKS

The Examiner has rejected claims 1-20 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,424,606 to Okazaki et al. The Examiner has further rejected claim 11 under 35 U.S.C. 103(a) as being unpatentable over Okazaki et al. in view of U.S. Patent 7,120,651 to Bamford et al.

Applicants **again** would like to point out that Bamford et al. is an improper reference in that the filing date thereof, to wit, April 23, 2004, falls after the priority date, December 16, 2002, of the subject application. Further, the filing dates of the parent applications, of which Bamford et al. is a continuation-in-part, i.e., September 17, 2003 and November 21, 2003, also fall after the priority date of the subject application. Applicants had perfected their entitlement to the priority date by filing a certified copy of the priority document, EP02080309.4, with the filing of this application. Applicants note that a translation of the priority document is not needed in that the priority document is already in English.

In view of the above, any rejection based on Bamford et al. must fall.

The Okazaki et al. patent discloses a method for detecting vibration in a disc drive and apparatus therefor, in which photodiodes A-F detect a laser beam reflected from the surface of a rotating disc, and the outputs therefrom are applied to a vibration detector 190. Based on the amount of the determined vibration, a

microcontroller 150 takes appropriate action, e.g., reducing the speed of rotation of the disc.

The subject invention relates to operating a storage device sensitive to vibration in an environment having a source of vibrations. As claimed in claim 1, the method of the subject invention includes "monitoring the performance of the storage device"; and "when the performance of the storage device decreases below a pre-determined level, taking action to reduce the influence of vibrations generated by the source of vibrations".

As noted in MPEP § 2131, it is well-founded that "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California,* 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Further, "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.,* 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

The Examiner has indicated that Okazaki et al. discloses "monitoring the performance of the storage device (by detecting the vibration the tricking subsystem is disabled in doing so, the storage performance is managed see abstract 6-10)".

Applicants submit that the Examiner is mistaken. In particular, that section of Okazaki et al. states:

> "...and the speed setting function 315, is also coupled to photodiodes A-F, and te vibration detector subsystem disables the tracking subsystem and detects

> vibration of the lens assembly 200 at a resonant speed."

By merely reading this section of Okazaki et al., it should be apparent that there is no disclosure or suggestion of monitoring of the performance of the storage device. Rather, Okazaki et al. merely measures the vibration by analyzing the outputs from the photodiodes A-F..

The Examiner has further indicated that Okazaki et al. discloses "when the performance of the storage device decreases below a predetermined level taking action to reduce the influence of vibrations generated by the source of vibrations (when the performance decreases below a predetermined level the vibration detector disables the subsystem due to the action it was taken see column 6, lines 16-26)".

Again, Applicants submit that the Examiner is mistaken. In particular, this section of Okazaki et al. states:

> "The drive 100 advantageously includes a vibration detector circuit 190 for detecting the vibration of the optical pickup assembly 130. The vibration detector 190 has inputs coupled to receive input signals from the photodiodes A-F in the lens assembly 200, processes the input signals, and provides an output signal indicating the degree of vibration of the optical pickup assembly 130 to the microcontroller 150. The microcontroller 150 can then determine whether the detected degree of vibration is within predefined allowable limits and take appropriate action, as will be described later."

Applicants submit that a careful reading of the above passages indicate that there is no monitoring of the performance of a storage device, nor any indication when the performance of the storage device drops below a predetermined level. Rather, Okazaki

et al. discloses measuring the vibration in a disc drive by analyzing the output signals of phododiodes A-F. If the amount of vibrations are outside of a predetermined amount, then action will be taken (e.g., reducing the rotation speed of the disc). Okazaki et al. makes an assumption that the performance of the disc drive will deteriorate when the vibration is above a predetermined level. However, there is no monitoring of the performance of the disc drive.

Claim 2 claims "wherein the performance of the storage device is indicated by service time statistics of the storage device". The Examiner has indicated that this is disclosed in Okazaki et al. "Okazaki discloses wherein the performance of the storage device is indicated by service time statistics of the storage device (see column 3, lines 38-44".

This portion of Okazaki et al. states:

> "d) measuring the displacement of the pickup head assembly with the tracking disabled to determine a vibration value; and
> e) comparing the vibration value with a vibration value limit and changing the relative movement from the resonant speed to another speed in accordance with the result of the comparison.".

Again, it should be apparent that this has nothing to do with "service time statistics" of the storage device.

The subject specification, on page 7, lines 8-14, states "In the embodiment of the invention described by means of Fig. 1, the control unit 150 keeps statistics on the access time of the storage device 108. When the average access time is too long for a certain amount of time, say over 500 milliseconds for a period of

10 seconds, action is taken. Of course, various related embodiments are obvious to those skilled in the art, such as taking action when the median access time is too high, the maximum access time is too high or the standard deviation of the access time is too high." Hence, there is clear support for the claim 2 limitation.

With regard to claim 3, the Examiner states "Okazaki discloses wherein the performance of the storage device is indicated by the average bit-rate of the storage device (completing the operation reduces the vibration see column 5, lines 1-19)."

This section of Okazaki et al. states:

> "by an unbalanced disc. Hence, the present invention advantageously determines maximum degree of vibration of the lens assembly 200 by setting the actuators in the optical pickup assembly 130 to operate at resonant frequency.
>
> "Returning now to FIG. 1, the RF amplifier 135 is a pre-amplifier for output signals from the optical pickup assembly 130 and provides the amplified output to the DSP 120. The RF amplifier 135 conditions the signal from the photodiodes A-F, and ensures a high signal-to-noise ratio of the signal sent to the DSP 120. In addition, the RF amplifier 135 incorporates automatic laser power control, and amplification of focus error and tracking error signals. In relation to the laser power, it is essential to maintain the light output level of the laser diode at a consistent level, which is achieved by monitoring a portion of the laser output via a monitor photo diode (not shown). The detected level is fed back through an automatic power control circuit within the RF amplifier 135, thereby stabilizing the light intensity of the laser diode."

It is unclear to Applicants how the Examiner is interpreting this section in order to read on that which is claimed in claim 3. This section of Okazaki et al. has nothing to do with the performing of the storage device being indicated by the average bit-rate.

With regard to claim 4, the Examiner states "Okazaki discloses wherein the action comprises the step of providing a message to a user to reduce the vibrations (see column 6, lines 1-15)."

This section of Okazaki et al. states:

> "150, is a system EPROM 154 which stores the necessary software programs for the microcontroller 150 to operate, and a crystal 185 to provide a system clock, as is known in the art.
> To read data from the disc 105, the sum of the output signals from the photodiodes A, B, C and D (in FIG. 2) are fed to the RF amplifier 135 and passes through a differential amplifier to generate a RF signal (RFGO). This signal is provided to the DSP 120 to perform EFM signal demodulation, and the first and second layer of the error correction. Resulting serial data is provided to the CD-ROM decoder 155. The CD-ROM decoder 155 extracts the data for transmision to a host from the serial data, performs third layer error detection and correction code (EDC) and error correction code (ECC), and sends the corrected data to the host computer through the host interface 160."

This section of Okazaki et al. describes, in general, the operation of the microcontroller 150, and how data is read from the disc and processed. However, there is no disclosure or suggestion in Okazaki et al. of "providing a message to a user to reduce the vibrations".

With regard to claim 6, the Examiner states "Okazaki discloses wherein the source of vibrations is a loudspeaker and the action is reduction of the volume of the sound produced by the loudspeaker (see figure 2 element 14, and element 32)."

Applicants have reviewed Okazaki et al. in its entirety and there is no mention of an element 14 nor and element 32. More specifically, there is no mention of a loudspeaker, nor that the

loudspeaker is the source of vibration. Rather, in Okazaki et al., the source of vibration is a warped rotating disc.

With regard to claim 7, the Examiner states "Okazaki discloses wherein when the performance decreases below the pre-determined level and the environmental temperature of the storage device is above a further pre-determined level, no action is taken (see column 6, lines 16-62)."

Applicants submit that this is ridiculous! Okazaki et al. does not even contain the term "temperature". The only "temperature" related term contained in this section of Okazaki et al. is "degree". However, this appears in col. 6 at line 25, where it is stated "the detected degree of vibration is within predefined allowable..." Obviously, this is not related to environmental temperature.

In view of the above, Applicants believe that the subject invention, as claimed, is neither anticipated nor rendered obvious by the prior art, and as such, is patentable thereover.

Applicants believe that this application, containing claims 1-20, is now in condition for allowance and such action is respectfully requested.

Respectfully submitted,

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